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ABSTRACT

To test relevance of learning activities in typewriting classrooms, a nationwide study identified and analyzed current office practices involving use of the typewriter. A sample of 802 typists, stenographers, secretaries, word processing specialists, and others who used the typewriter completed a questionnaire covering demographic data, elements of the typewriting production process, equipment usage, dimensions of job change, and reaction to preparation for employment. Work samples verified responses and provided information on materials used and format that was not readily ascertained from survey data. Respondents ranged in age from 18-70 years and 99% were females. Nearly half had a high school education or less; 38% had 1-2 years postsecondary education. Over half devoted 51-100% of working time to typewriting activities. Typewriting tasks were reported in five categories: letters, memoranda, reports and manuscripts, business forms, and tables. Primary source of content was handwriting. The most frequent method of error correction was liftoff correction. Photocopying was the most frequent method of making copies. Nearly half reported they used personal judgement in determining format of letters, memoranda, and tables that they typed. (Implications for business education curriculum are discussed for each area of data analyzed. Forty-eight data tables are provided.) (YLB)

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BUSINESS OFFICE PRACTICES INVOLVING THE TYPEWRITER WITH IMPLICATIONS FOR BUSINESS EDUCATION CURRICULA

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The research reported herein is an extension of an earlier study by L. W. Erickson of the usage of the typewriter in office work in the Greater Los Angeles Area. The research was funded, in part, by a grant from L. W. Erickson.

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Donald H. Fox, Editor

Anita Ziegelmeyer, Editorial Associate

PREFACE

Some current office practices relating to the use of the typewriter in the business office are presented in this monograph.

Current business practices can be used as a test of the relevance of the learning activities included in our typewriting classrooms; however, business practice should not always be our guide in terms of what we do in business education because, in some cases, current business practice may not represent what we know to be best or, at least, improved practice.

As educators, our task is to exert a leadership role in helping business organizations design efficient and effective practices and procedures relating to the use of the typewriter.

The findings presented in this monograph may help us review what it is we *are doing* and may give direction to what we *ought to be doing*.

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BUSINESS OFFICE PRACTICES INVOLVING THE TYPEWRITER WITH IMPLICATIONS FOR BUSINESS EDUCATION CURRICULA

I. PURPOSE OF THE STUDY

The primary purpose of this study which included typists, stenographers, secretaries, word processing specialists, and others, was the identification and analysis of current office practices involving the use of the typewriter with implications for business education curricula. The random sample represented all geographic areas of the United States, all business and service categories, and all levels of experience among the clerical workers.

II. PROCEDURES

Design of the Study

A two-stage survey research design was employed to elicit information from the target population, which consisted of all employed typists, stenographers, secretaries, and word processing specialists in the United States. The first stage was composed of a proportional stratified systematic random sample of 1,000 organizations drawn from nine business and service categories based upon the number of clerical workers employed in each category. Distribution of clerical employees, along with the number of businesses included in the sample first stage, is shown in Table 1, page 2.

Employee selection represented the second stage of the research design. The chief executive officer of each organization was asked to select up to eight employees (two typists, two stenographers, two secretaries, and two word processing specialists) to participate in the study. Questionnaires were sent to 1,148 employees; 802 usable questionnaires were returned, yielding a response rate of nearly 70 percent.

Definition of Terms

The definitions of terms used in the study are given here:

Typist* — an office worker who records, transcribes, transmits, duplicates, and receives data by means of a typewriter or a machine equipped with a typewriter-like keyboard.

Stenographer* — an office worker who takes shorthand and speedwriting notes by hand or machine and transcribes them.

Secretary* — an office worker who carries out minor administrative and general office duties in addition to taking and transcribing dictation.

Word Processing Specialist — a corresponding secretary, magnetic tape typewriter operator, or other typist who operates various kinds of high-speed typewriters equipped with a programmed memory. *(Occupational Outlook Handbook, 1978-9).*

*Definitions taken from the *Dictionary of Occupational Titles*, 1977.

TABLE 1. TARGET AND FIRST-STAGE SAMPLE POPULATION CLASSIFIED BY STANDARD INDUSTRIAL CLASSIFICATION

Industry (SIC)	Typists, secretaries and steno. employed[a]		Businesses in sample — first stage
	Number	Percentage of total	
Agriculture, forestry, and fishing	15,880	.47%	5
Mining	21,393	.63	6
Construction	95,297	2.79	28
Manufacturing	713,651	20.92	209
Transportation, communication, and other public utilities	197,181	5.78	58
Wholesale trade	195,862	5.74	57
Retail trade	215,289	6.31	63
Finance, insurance, and real estate	566,199	16.60	166
Services	1,389,854	40.75	408
Totals (excluding public administration[b])	3,410,606	99.99%	1,000

[a]Source: U.S. Bureau of the Census, 1970 Census of the Population, Occupation by Industry.

[b]Office employees in public administration (which includes the postal service, the military, and local, state, and federal government) were excluded from this study because of the anomalous manner in which paperwork is processed.

Data Collection Procedures

An eight-page comprehensive questionnaire was constructed covering demographic data, elements of the typewriting production process, equipment usage, dimensions of job change, and preparation for employment. The questionnaire was revised after pretesting and pilot testing. Follow-up letters and postcards were sent to prompt a strong response. In addition to the questionnaire, respondents returned samples of their typewritten work.

Data Analysis Procedures

Each completed questionnaire was examined for accuracy, completeness, and consistency. Work samples were used to verify questionnaire responses. Variables were analyzed by computer in one-way frequency distributions as well as by means of cross-tabulation.

III. LIMITATIONS

Generalizations derived from this research are limited by the following factors:

1. Business organizations in the sample were selected from companies listed in the *Million Dollar Directory,* Volume 1, 1979. The sample was limited to those companies with 50 or more employees.

2. Nonprofit organizations in the sample were selected from those organizations with staffs of five or more listed in the *Encyclopedia of Associations,* 1979.

3. Organizations to represent educational, legal, and health services were selected from *Patterson's American Education*; *Education Directory, Colleges and Universities,* 1977-78; *Martindale-Hubbell Law Directory,* 1979; and the *American Hospital Association Guide to the Health Care Field,* 1978.

4. Specifically excluded from this study were office workers who perform no typewriting tasks or those who operate data processing machines such as the keypunch.

5. Military, postal, and other governmental clerical employees were excluded.

6. No attempt was made to evaluate the office practices reported nor to judge the work performance of job samples submitted.

IV. ANALYSIS OF DATA

Description of Sample Response

Job category data. A total of 802 typists, stenographers, secretaries, word processing specialists, and others who used the typewriter completed the office procedures and equipment questionnaires, as shown in Table 2, page 4.

TABLE 2. NUMBER AND PERCENTAGE OF RESPONDENTS

Job category	Number	Percent
Typist	79	10%
Stenographer	27	3
Secretary	468	58
Word processing specialist	127	16
Other	101	13
Totals	802	100%

The present research was not designed to produce data reflecting actual numbers of clerical workers employed in certain job categories, but it is interesting that 58 percent of the respondents considered themselves "secretaries," while only 10 percent classified themselves "typists." This reporting reflects a ratio of approximately one typist to every six secretaries in the sample. Census figures in 1970 show that secretaries represented 71 percent and typists 26 percent of the total typists, stenographers, and secretaries employed, producing a ratio of approximately one typist to every three secretaries.

A number of possibilities may be advanced to explain the high frequency of secretaries and the relatively low frequency of typists in the present study. In many businesses the term "secretary" is used generically to describe any clerical worker. Moreover, the job title "secretary" is considered by some to be somewhat more prestigious than the title "typist." For these reasons, the category "secretary" may be disproportionately high. In addition, word processing, a job category only recently introduced to the labor field, may be affecting the ratio of typists to secretaries. Word processing specialists are often highly skilled typists. Another factor in this research which influences the proportions of respondents is the "Other" category. Many companies employ workers who perform clerical duties under specialized job titles; given the opportunity to select a job category, these workers chose "Other."

Demographic data. As shown in Table 3, page 5, the typists, stenographers, secretaries, and word processing specialists who participated in the study ranged in age from 18 to 70 years. The median age was 34, while the modal age was 23. Half the workers were 30 years and under.

Reinforcing the perception of clerical employment as a female-dominated labor field, 99 percent of the respondents were women. Of the 6 male respondents who classified themselves in specific clerical roles, 5 were in word processing, a clerical field apparently attractive to men. Word processing offers the fascination and challenge of technologically advanced equipment plus somewhat higher salaries than most clerical positions.

A high school education or less was sufficient for nearly half (49 percent) of the clerical workers in the survey. An additional 38 percent of the workers had one to two years of postsecondary education, while 14 percent reported three or four years of education beyond high school.

TABLE 3. DESCRIPTION OF TYPISTS, STENOGRAPHERS, SECRETARIES, AND WORD PROCESSING SPECIALISTS IN SAMPLE*

Category	Number	Percent
Age		
18-23	173	22%
24-30	221	28
31-40	167	22
41-50	110	14
51-70	108	14
Sex		
Female	790	99
Male	9	1
Years of education		
11 or less	5	1
12	383	48
13	149	19
14	150	19
15	40	5
16 or more	72	9
Years of office experience		
1-5	232	29
6-10	232	29
11-15	135	20
16-20	79	8
21 or more	113	14
Number of clerical workers in immediate office		
1-2	301	41
3-4	181	24
5-10	170	23
11-20	48	7
20-50	32	4
Over 50	6	1

*Not all respondents answered all categories.

Concerning years of office work experience, the sample participants ranged from 1 to 50 years, indicating that the study achieved one of its goals: both beginning and experienced clerical workers were represented in the survey. The

average years of experience for all clerical workers was 12, but the mode was only 3 years, suggesting the youthfulness of clerical workers.

Typists, stenographers, secretaries, and word processing specialists appear to work in small office groupings. When asked how many clerical workers were employed in their *immediate* offices, 65 percent of the survey respondents reported four or fewer employees. Only 5 percent of the respondents worked in offices where 20 or more clerical workers were employed in the immediate area, which suggests that the large, open offices of the future have not been implemented by most businesses.

TABLE 4. PROFILE OF SAMPLE POPULATION

Business and service groups	Mean age	Years education	Mean yrs. office work exp.	Mean no. of cler. workers per office
Manufacturing	35	12.9	13.6	6.0
Trans., commun., pub. utilities	31	12.6	11.7	5.7
Trade	32	12.9	10.2	7.1
Finance	34	13.0	11.3	8.6
Business/ repair services	32	13.4	9.0	7.2
Misc. businesses	34	13.0	12.9	6.8
Health	34	12.9	11.5	3.9
Education	38	13.4	12.4	2.8
Legal	28	13.3	8.5	7.1
Misc. services	33	13.1	10.8	6.4
All groups	34	13.1	11.6	6.0

N=799

Table 4 above provides a profile of the sample population as classified by business and service groupings for the purposes of this study. The youngest workers were employed in the legal field, where the average age was 28; and the oldest workers were in education, where the average age was 38.

The range in average years of education among clerical workers in the ten business and service groups is rather small, from 12.6 years to 13.4 years. Clerical workers in education and business/repair services had the most education (13.4 years). Employees in manufacturing had the most years of office work experience (13.6 years), while employees in the legal field had the least experience (8.5 years). The mean number of clerical workers employed in the immediate office ranged from 2.8 in education to 8.6 in the financial field, which includes insurance companies with large office staffs.

A profile of the sample population classified by job category, shown in Table 5 below, reveals that the youngest clerical workers were word processing specialists (age 31), and the oldest were stenographers (age 37). Typists had the least education (12.7 years) and the least years of experience (8.9 years). Stenographers had the most experience (14.6 years) and also worked in the smallest office groupings (4.7 clerical employees).

Elements of the Typewriting Process

Time spent on typewriting activities. Table 6, page 8, shows that over half of the clerical workers in all business and service groups devoted between 51 and 100 percent of their working hours to typewriting activities. The heaviest typing was done in the legal and health fields, while the least typing was reported in manufacturing.

Distribution of typewriting tasks. Typewriting tasks were reported in five categories: letters (external correspondence), memoranda (internal correspondence), reports and manuscripts (contextual material), business forms (invoices, purchase orders, and other fill-in forms), and tables (columnar material requiring tab stops).

TABLE 5. PROFILE OF SAMPLE POPULATION CLASSIFIED BY JOB CATEGORY

Job category	Mean age	Years education	Mean yrs. office work exp.	Mean no. of cler. workers per office
Typist	32	12.7	8.9	6.4
Stenographer	37	13.0	14.6	4.7
Secretary	35	13.1	12.5	5.2
Word processing specialist	31	13.1	10.1	7.2
Other	34	13.2	10.5	7.8
All categories	34	13.1	11.6	6.0

N=789

Shown in Table 7, page 9, the survey respondents reported that they spent 30 percent of their total typing time producing letters and 20 percent producing reports and manuscripts. Memoranda made up 19 percent, business forms comprised 13 percent, and tables accounted for 10 percent of the total time devoted to typewriting tasks. The "Other" category of typewriting tasks included such typing as messages, cards, envelopes, itineraries, drafts, contracts, statements, minutes, press and field releases, and policies.

When typewriting tasks were classified according to job categories, the differing roles of clerical workers are highlighted (Table 8, page 9). Typists, who usually are the least experienced and the lowest paid of clerical workers, reported that they typed more business forms (29 percent) than any other typewriting

activity. These fill-in forms are generally repetitive and require less skill than other typewriting tasks. The typing of letters and memoranda, which generally demands more highly developed skills, was lowest among typists and highest among secretaries, stenographers, and word processing specialists. Secretaries spent 54 percent of their total typing time on correspondence (letters and memos); word processing specialists and stenographers devoted 46 percent of their total typing time to correspondence. Those employees in the job category classified as "Other" performed typing tasks which were nearly the same as those tasks performed by employees classified as typists.

TABLE 6. TIME SPENT ON TYPEWRITING ACTIVITIES AS A PERCENT OF TOTAL WORK HOURS

Business and service group	Less than 25%	26-50%	51-75%	76-100%	Total
Manufacturing	23%	35%	32%	10%	100%
Trans., commun., public utilities	14	38	22	26	100
Trade	16	35	24	25	100
Finance	12	34	27	27	100
Misc. businesses	10	44	31	15	100
Business/repair services	6	34	28	32	100
Health	11	26	40	23	100
Education	10	41	36	13	100
Legal	3	30	44	23	100
Misc. services	10	33	32	25	100
All groups	13%	35%	31%	21%	100%

N=795

The longer, more complex, and perhaps most demanding documents (letters, reports, and tables) were more often produced by word processing specialists than by any other clerical workers. This finding confirms the fact that the heaviest typewriting chores are being sent to word processors, where automated equipment is used to increase production, improve quality, and reduce per-unit costs.

Source of material. Table 9, page 10, reveals that the primary source of the content for the typewritten output of the entire sample was handwriting.

1. **Letters and memoranda.** Nearly 45 percent of the clerical workers reported that the content of the letters and memoranda they produced came to them in handwriting. Shorthand notes were mentioned by 20 percent of the respondents, while a nearly equal number (17 percent) said that dictation tapes or discs were the primary source of letters and memoranda. It appears that

machine dictation and transcription are used as sources for correspondence nearly as often as shorthand, which probably reflects the fact that many office workers do not possess shorthand skills. Between 11 and 13 percent of the respondents reported that they composed the letters and memoranda they typed. Although rough-draft copy (typed copy with handwritten revisions) was mentioned by only 5 to 6 percent of the respondents as the source of letters and memoranda, rough-draft copy probably does comprise a significant portion of the letters and memoranda, originally prepared from a variety of sources, which are retyped after editing.

2. **Reports and manuscripts**. Nearly half (47 percent) of the respondents said that the content of the reports and manuscripts they typed came to them most frequently in handwritten form although 30 percent reported they usually typed reports from rough-draft material. Twelve percent typed reports from dictation tapes, while 5 percent typed from shorthand notes. Reports were composed by 5 percent of the respondents.

TABLE 7. TYPING TASKS

Task	Percent of Total Typing
Letters	30%
Reports, manuscripts	20
Memoranda	19
Business forms	13
Tables	10
Other typing	8
Total	100%

TABLE 8. TYPING TASKS AS PERCENTAGE OF TOTAL TYPING

Job category	Letters	Reports	Memos	Forms	Tables	Other	Total
Typist	21%	16%	12%	29%	9%	13%	100%
Stenographer	27	20	19	11	13	10	100%
Secretary	32	19	22	11	9	7	100%
Word processing specialist	32	24	14	7	15	8	100%
Other	23	21	13	24	8	11	100%
All categories	30%	20%	19%	13%	10%	8%	100%

N=734

TABLE 9. TYPING SOURCE

Source	Letters	Memos	Reports	Forms	Tables	All Tasks
Handwriting	45%	44%	47%	49%	65%	49%
Rough draft (typed copy with handwritten revisions)	5	6	30	11	21	15
Shorthand notes	20	20	5	3	—	10
Dictation tapes, discs	17	17	12	5	2	10
Self-composition	11	13	5	28	10	14
Other	2	—	1	3	2	2
Totals	100%	100%	100%	100%	100%	100%

N=696

3. **Business forms.** The source of the content of business forms was usually handwriting (49 percent), but composition by the typist was reported by 29 percent of the clerical workers, and 11 percent worked from rough-draft copy.

4. **Tables.** Nearly two-thirds of the respondents (65 percent) reported that handwriting was the content source of tables, while 21 percent cited rough-draft copy, and 10 percent composed tables themselves.

Source of material within job categories. Tables 10 through 14 (pages 11 and 12) depict the content source of typewritten output classified by job category.

1. **Letters.** Over two-thirds of the typists (70 percent) reported handwriting to be the most frequent source of the letters they typed, as shown in Table 10, page 11. Handwriting was also important as a letter source for stenographers (48 percent) and secretaries (46 percent); however, in addition to handwriting, they reported considerable use of shorthand notes and dictation tapes. As compared with other clerical workers, more word processing specialists (41 percent) reported the use of tapes as a source for letters.

The "Other" category, which included specialized jobs like administrative assistant and customer service representative, showed more composition as a source of letters than any of the other job categories. These employees were more independent and, hence, more likely to generate their own copy.

2. **Memoranda.** The sources of memoranda, shown in Table 11, page 11, follow the same trends as letters. Handwriting was the major source of memoranda for all job categories except for word processing specialists, who produced the major portion (42 percent) of their memoranda from dictation tapes or discs.

3. **Reports and manuscripts.** Analysis of the data concerning source materials for reports and manuscripts reveals considerable similarity among job categories as can be seen in Table 12, page 12.

TABLE 10. LETTER SOURCE

Job category	Hand-writing	Rough draft	Short-hand	Tapes	Self-comp.	Other	Total	N
Typist	70%	9%	—	5%	15%	1%	100%	59
Stenographer	48	—	36	16	—	—	100	25
Secretary	46	2	29	14	8	1	100	422
WP specialist	32	12	3	41	6	6	100	109
Other	37	8	4	11	37	3	100	71
All categories	45%	5%	20%	17%	11%	2%	100%	686

TABLE 11. MEMORANDA SOURCE

Job category	Hand-writing	Rough-draft	Short-hand	Tapes	Self-comp.	Other	Total	N
Typist	72%	8%	—	8%	12%	—	100%	49
Stenographer	46	4	33%	17	—	—	100	24
Secretary	44	5	26	13	12	—	100	412
WP specialist	34	10	6	42	7	1	100	95
Other	41	6	10	11	30	2	100	63
All categories	44%	6%	20%	16%	13%	1%	100%	643

Typists, stenographers, secretaries, and word processing specialists all reported that handwriting and rough-draft provided the major sources of the reports they typed.

4. **Business forms**. The sources of business forms are shown in Table 13, page 12. For all job categories, handwriting was again the major source for the content of business forms. Within the four specific clerical job classifications, nearly one third of the secretaries (32 percent) reported that they composed the content of the business forms they typed. However, only 19 percent of the stenographers, 15 percent of the typists, and 13 percent of the word processing specialists composed the forms they typed. Secretaries are generalists in the office and often carry out administrative functions; hence, they do more composition than other clerical workers. Word processing specialists, on the other hand, are specialists in the use of automated and electronic typewriters; hence, they reported much less composition of business forms.

TABLE 12. REPORT SOURCE

Job category	Hand-writing	Rough-draft	Short-hand	Tapes	Self-comp.	Other	Total	N
Typist	56%	34%	—	5%	5%	—	100%	41
Stenographer	55	32	9	4	—	—	100	22
Secretary	48	29	7	10	5	1	100	385
WP specialist	41	39	1	15	—	4	100	106
Other	42	22	1	18	17	—	100	60
All categories	47%	30%	5%	11%	6%	1%	100%	614

TABLE 13. BUSINESS FORMS SOURCE

Job category	Hand-writing	Rough-draft	Short-hand	Tapes	Self-comp.	Other	Total	N
Typist	51%	21%	2%	—	15%	11%	100%	53
Stenographer	57	10	—	14	19	—	100	21
Secretary	49	10	3	4	32	2	100	332
WP specialist	53	12	1	11	13	10	100	74
Other	46	7	—	2	42	3	100	57
All categories	49%	11%	2%	5%	29%	4%	100%	537

TABLE 14. TABLE SOURCE

Job category	Hand-writing	Rough-draft	Short-hand	Tapes	Self-comp.	Other	Total	N
Typist	56%	18%	3%	—	20%	3%	100%	39
Stenographer	69	25	—	—	6	—	100	16
Secretary	68	20	—	1	10	1	100	334
WP specialist	66	23	—	5	3	3	100	95
Other	54	24	—	2	18	2	100	46
All categories	65%	21%	—	2%	10%	2%	100%	530

5. **Tables**. The content sources of tables are shown in Table 14, page 12. Regardless of job classification, most clerical workers typed tables from handwritten or rough-draft materials.

Typing source — Implications for business education curricula. To be representative of actual office practice, instructional materials for typewriting should include letters, memoranda, reports and manuscripts, business forms, and tables. Liberal use of handwritten source documents should be made in all typewriting tasks. In typing reports, students should learn to work from rough-draft copy as well as handwritten materials. Students should be given an opportunity to compose some examples of all typewritten tasks, particularly business forms. Nonshorthand students should be encouraged to transcribe letters from machine dictation. In advanced typewriting classes, a reduced amount of student typing should originate from straight-copy documents.

Error correction. For the entire sample, the most frequent method of error correction for all typewriting tasks, presented in Table 15 below, was lift-off correction. This finding implies, of course, that the majority of clerical workers in the survey were using typewriting equipment with lift-off capability, such as the IBM Correcting Selectric typewriter, the IBM Memory typewriter, the IBM Electronic typewriter, as well as other kinds of typewriters with error lift-off capability. (A discussion of equipment appears on page 30.)

TABLE 15. METHODS OF ERROR CORRECTION

Method	Letters	Memos	Reports	Business forms	Tables	Total use
Lift-off	57%	58%	50%	48%	48%	57%
Electronic correction	16	16	18	12	16	16
Correction fluid	13	13	22	24	25	13
Chalk-back paper	11	11	7	8	7	11
Eraser	2	1	2	6	3	2
Other method	1	1	1	2	1	1
Totals	100%	100%	100%	100%	100%	100%

N=741

The second most frequently mentioned error correction method was correction fluid, which was especially popular in correcting reports, business forms, and tables. Probably because of the difficulty in making lift-off corrections when copies are involved, the use of lift-off correction decreased somewhat on reports, business forms, and tables.

Electric correction, which is possible on automated typewriters, was the most frequently cited method of error correction for 12 to 18 percent of the respondents, while chalk-back paper was reported by 7 to 11 percent. The least mentioned means of error correction was the eraser, although 6 percent of the respondents used it in correcting business forms, which usually have multiple copies.

Error correction has changed considerably over the past decade. Both the NOBELS study (Erickson, 1971) and the Ober study (1974) reported that correction paper (chalk-back paper) and correction fluid were most often used for making corrections. With the introduction of correcting typewriters, however, many more clerical workers are now using lift-off correction.

Error correction — Implications for business education curricula. Instruction in error correction in typewriting classrooms should include all methods of correction, with emphasis upon the lift-off method. Every effort should be made to include at least some work stations set up with correcting typewriters. In the absence of actual correcting typewriters, lift-off correction tabs are available which, when used with special correcting film ribbon, produce the same effect as correcting typewriters. In addition to teaching lift-off correction for all typewriter tasks, instruction should be given in the use of correction fluid and chalk-back paper. Students should be taught how to combine various correction procedures, *e.g.*, with lift-off correction on an original, fluid or chalk-back paper could be used on a carbon copy. Electronic correction should be demonstrated if automated equipment is available and discussed if not available. Use of the eraser as a means of correcting errors should be deemphasized.

Copy method and number of copies. Photocopying was the most frequently used method of making copies for all typewriting tasks, as shown in Table 16 below.

The number of copies made of various materials according to typewriting task is presented in Table 17, page 15.

1. **Letters.** Clerical workers reported that they made an average of 2.3 copies (in addition to the original) of letters. To make copies of these letters, 49 percent of the respondents said they used a photocopier, while 48 percent said they used carbon paper. The remaining respondents reported that they made no copies or that they used other methods of copying, such as carbonless paper, central duplicating, or word processing printers.

TABLE 16. COPY METHOD

Method	Letters	Memos	Reports	Forms	Tables
Photocopier	49%	65%	83%	57%	78%
Carbon	48	29	8	27	7
Carbonless paper	—	1	1	2	1
Central duplicating	—	—	2	1	1
Ditto, mimeograph	—	1	1	1	1
Word processing printers	1	1	1	—	1
No copies made	2	3	4	12	11
Totals	100%	100%	100%	100%	100%

N=779

2. **Memoranda**. The average number of copies made of memoranda was 4.8. Photocopying was preferred by 65 percent of the sample, while 29 percent used carbon paper.

3. **Reports and manuscripts**. For reports and manuscripts, which averaged 5.6 copies, 83 percent of the respondents used the photocopier while only 8 percent used carbon paper. Four percent said they made no copies of reports, and the remaining 5 percent of the respondents used other methods of copying.

4. **Business forms.** An average of 4.5 copies were made of business forms; the photocopier was used by 57 percent of the respondents for copies, and carbon paper was used by 27 percent. Nearly 12 percent of the respondents reported that they made no copies of business forms.

5. **Tables.** An average of 5.3 copies was made of tables, and the photocopier was reported by 78 percent of the clerical workers as the most frequently used copy method. However, 11 percent of the respondents said they made no copies of tables.

TABLE 17. NUMBER OF EXTRA COPIES MADE ACCORDING TO TYPING TASK*

No. of copies	Letters	Memos	Reports	Forms	Tables
1 copy	34%	26%	30%	41%	35%
2 copies	33	29	23	26	22
3 to 4 copies	26	23	18	18	19
5 or more	7	22	29	15	24
Totals	100%	100%	100%	100%	100%
Average No. of copies	2.3	4.8	5.6	4.5	5.3

N = 700

*Of those who made copies

When the average number of copies is compared with the use of the photocopier (Table 18 below), a clear relationship is revealed. As the number of copies is increased, the use of the photocopier also increases.

TABLE 18. COMPARISON OF NUMBER OF COPIES MADE WITH USE OF PHOTOCOPIER

	Letters	Forms	Memos	Tables	Reports
Average No. of copies	2.3	4.5	4.8	5.3	5.6
Use of photocopier	48%	57%	65%	78%	83%

Copy method — Implications for business education curricula. Students should be given an opportunity to photocopy documents they type. The use of carbon paper should also be taught, particularly for copies of letters and to a lesser extent for copies of memoranda and business forms. Since photocopying is used extensively for reproducing documents in offices, students should be taught cut-and-paste techniques as well as the use of correction fluid on originals, which can then be used to produce attractive photocopies without the need for total retyping.

Format determination. As shown in Table 19 below, nearly half of the clerical workers reported that they used personal judgment (in all probability based on education and experience) in determining the format of letters (47 percent), memoranda (49 percent), and tables (50 percent) that they typed. In preparing reports, however, nearly half of the survey respondents (46 percent) said they were given special instructions by a superior or by the author of a document as to its format. Business forms were most often typed according to company policy (52 percent), although specific instructions were also mentioned frequently (24 percent).

Tables 20 through 24, pages 17 and 18, show format determination classified by job categories.

1. **Letters.** In setting up letters, as shown in Table 20, page 17, secretaries (53 percent) were most likely to use personal judgment. The clerical workers who classified themselves "Other," it must be remembered, were those employees who generally did less typing and who often generated their own copy; therefore, they frequently used personal judgment (51 percent) in setting up the documents they typed.

2. **Memoranda.** Table 21, page 17, presents format determination practices in relation to memoranda. The trends in format determination of memoranda are very similar to those of letters, with secretaries (54 percent) using personal judgment, and with stenographers (57 percent) and word processing specialists (53 percent) usually following company policy.

3. **Reports.** In setting up reports (Table 22, page 17) clerical workers in all categories followed specific instructions most frequently.

TABLE 19. FORMAT DETERMINATION

Method	Letters	Memos	Reports	Forms	Tables
Personal judgment	47%	49%	31%	22%	50%
Company policy	38	36	23	52	13
Specific instructions	15	15	46	24	36
Other method	—	—	—	2	1
Totals	100%	100%	100%	100%	100%

N = 749

TABLE 20. LETTER FORMAT

Job category	Company policy	Special instruc.	Personal judgment	Other	Total	N
Typist	31%	25%	43%	1%	100%	65
Stenographer	54	17	29	—	100	24
Secretary	35	12	53	—	100	455
WP specialist	55	16	29	—	100	119
Other	35	14	51	—	100	78
All categories	39%	14%	47%	—	100%	741

TABLE 21. MEMORANDA FORMAT

Job category	Company policy	Special instruc.	Personal judgment	Other	Total	N
Typist	34%	27%	39%	—	100%	59
Stenographer	57	10	33	—	100	21
Secretary	32	14	54	—	100	429
WP specialist	53	12	34	1	100	105
Other	30	21	49	—	100	70
All categories	36%	15%	49%	—	100%	684

TABLE 22. REPORT FORMAT

Job category	Company policy	Special instruc.	Personal judgment	Other	Total	N
Typist	31%	43%	26%	—	100%	51
Stenographer	26	39	35	—	100	23
Secretary	20	45	35	—	100	407
WP specialist	24	50	24	2	100	109
Other	26	48	26	—	100	62
All categories	22%	46%	32%	—	100%	652

4. **Business forms.** The format of business forms, shown in Table 23 below, was usually determined by company policy, although 33 percent of the word processing specialists reported that they used specific instructions to set up business forms. Since word processing centers are sometimes removed from other offices and since these centers often serve many different departments within a company, specific instructions would logically be important in the production of all typewriting tasks.

5. **Tables.** Practices followed in format determination of tables are shown in Table 24 below.

TABLE 23. BUSINESS FORMS FORMAT

Job category	Company policy	Special instruc.	Personal judgment	Other	Total	N
Typist	60%	23%	16%	1%	100%	62
Stenographer	65	15	20	—	100	20
Secretary	51	23	24	2	100	360
WP specialist	46	33	19	2	100	86
Other	55	23	22	—	100	64
All categories	52%	24%	22%	2%	100%	592

TABLE 24. TABLE FORMAT

Job category	Company policy	Special instruc.	Personal judgment	Other	Total	N
Typist	14%	35%	49%	2%	100%	43
Stenographer	25	25	50	—	100	50
Secretary	11	36	53	—	100	359
WP specialist	14	39	45	2	100	106
Other	12	38	48	2	100	56
All categories	13%	36%	50%	1%	100%	614

In producing tables, clerical workers most often used personal judgment, although special instructions were also an important factor.

When consideration is given to the production work of all typewriting tasks, the most personal judgment was consistently shown by secretaries. Secretaries generally are given more responsibility than other office workers and often carry on administrative functions that involve a greater degree of decision making. The least personal judgment in the determination of format for various typewriting tasks was exercised by word processing specialists and by stenographers.

Format determination — Implications for business education curricula. Instructional activities should be structured so that students are exposed to a variety of methods of determining format. Students should follow company (or classroom) policy and specific (textbook) instructions for given projects so that they develop the background skills and competencies needed for using personal judgment, particularly in setting up letters, memoranda, and tables.

Letters

In addition to data gathered from the questionnaires, information was obtained from a work sample analysis of 100 letters selected to represent various business and service organizations in proportion to the employment of clerical workers. (For example, 21 sample letters were selected from the manufacturing field because 20.9 percent of all typists, stenographers, and secretaries are employed in offices in the manufacturing field.) Analysis of work sample letters not only confirmed the data from the questionnaires but also provided additional information concerning letter production — information which could not readily be ascertained from survey data.

The questionnaire data revealed that of the total sample of 802 respondents, 748 (93 percent) typed letters as part of their jobs.

Letter stationery. As shown in Table 25 below, 99 percent of the clerical workers who typed letters said that they usually typed letters on stationery printed with the company letterhead. The depth of the printed letterhead ranged from less than 1 inch to over 2 inches, with the majority of the clerical workers using stationery with the printed letterhead in the 1-inch to 1 3/4-inch range. A majority of the clerical workers (93 percent) used No. 10 large envelopes, and 99 percent of the respondents reported that the company name was printed as a return address on the envelopes.

TABLE 25. LETTER STATIONERY

Practice		Percent
Use of company stationery with printed letterhead		99%
Depth of printed letterhead		
1 inch or less	16%	
1 1/4 inch	12	
1 1/2 inch	22	
1 3/4 inch	9	
2 inches	30	
Over 2 inches	11	
Total		100
Envelope size		
Large (No. 10)		93
Small (No. 6 3/4)		4
Other		2
Prited return address on envelope		99

N=748

Letter style. Table 26 below shows the styles or formats used for setting up letters.

The block letter, in which all lines begin at the left margin, was preferred by 43 percent of the survey respondents. This finding confirms an apparent trend toward increasing use of the more efficient block style. In the 1952 Balsley study, 5 percent of the respondents used block style; in the 1968 Mukomela study, 12 percent of the letters were in block style; and in the 1974 Ober study, 27 percent of the work samples exhibited block style.

Letter dateline. Table 27 below shows the dateline placement data.

Slightly over half (52 percent) of the respondents preferred the floating dateline, in which the position of the date is raised or lowered according to the length of the letter, with four lines separating it from the letter address. Conversely, slightly under half (48 percent) preferred a fixed dateline; that is, the date is always typed on the same line while the number of spaces between the dateline and the address is varied according to the length of the letter.

Letter margins. Table 28, page 21, shows the practices followed in terms of margins used in typing letters.

Over two-thirds (68 percent) of the sample preferred variable margin settings, that is the adjusting of margins according to letter length; however, the use of fixed margins for all letters regardless of length is apparently increasing. In the 1952 Balsley study, the use of fixed margins was reported by only 8 percent of the respondents, by 17 percent in the 1974 Balsley study, and by 32 percent of the clerical workers in this study.

TABLE 26. LETTER STYLE

Style	Percent
Block	43%
Modified block, indented paragraphs	28
Modified block, blocked paragraphs	28
Other	1
Total	100%

TABLE 27. LETTER DATELINE

Practice	Percent
Floating	52%
Fixed	48
Total	100%

Of those clerical workers who used fixed margins according to the present study, 45 percent preferred 1 1/4-inch margins (a standard 6-inch line of writing) and 25 percent used 1 1/2-inch margins. Table 29 below shows the margin settings used by those clerical workers who set fixed margins in typing of all letters.

TABLE 28. LETTER MARGINS

Practice	Percent
Variable	68%
Fixed	32
Total	100%

TABLE 29. FIXED MARGIN SETTINGS FOR LETTERS

Margin setting	Percent
1 inch	20%
1 1/4 inch	45
1 1/2 inch	25
Other	10
Total	100%

The following findings are the result of the work sample analysis of the 100 letters selected to represent various business and service organizations in proportion to the employment of clerical workers (See page 19).

Letter punctuation style. The analysis of 100 letters selected as a work sample provided data on punctuation styles used. These data are shown in Table 30, page 22.

The use of mixed punctuation, with a colon after the salutation and a comma after the complimentary close, was overwhelmingly preferred by the clerical workers (95 percent) as shown in the letters they typed. The use of open punctuation, advocated by authorities as the proper punctuation style to be used with the block letter style, has not yet found its way into the business world.

Business people are gradually accepting the more efficient block letter style, which does not represent a radical departure from conventional letter styles. They appear, however, not ready to accept open punctuation or the AMS Simplified letter style. The reason for reluctance to use these more efficient practices may simply be resistance to change. More likely, however, is the possibility that open punctuation and the streamlined AMS style are considered impersonal by tradition-oriented business people.

TABLE 30. LETTER PUNCTUATION STYLE

Style	Percent
Mixed	95%
Open	0
AMS Simplified	1
Irregular	4
Total	100%

N = 100

Opening lines of letters. The findings relating to the opening lines of letters from the work sample are shown in Table 31 below. Attention lines, appearing in only 11 percent of the letters analyzed, were usually placed above the salutation.

Subject lines, which appeared in 28 percent of the letters studied, were also nearly always positioned above the salutation, somewhat in contradiction to classroom instruction. Business people, perhaps for better visibility, seem to prefer the higher placement of the subject line, even though such placement violates the logic of placing the subject line in relation to the body of the letter.

TABLE 31. OPENING LINES OF LETTERS

Practice	Percent
Use of mailing notation	3%
Attention line	
A double space below letter address	9
Part of address	2
Below salutation	0
Not used	89
Subject line	
A double space below letter address	24
A double space below salutation	3
AMS Simplified format	1
Not used	72

N = 100

Table 32, page 23, shows the subject line practices according to the work sample.

Of the letters which used a subject line, 78 percent introduced it with the words "Re" or "In Re." Only 11 percent used the word "Subject." Many of the subject lines using the word "Re" referred to a specific policy, contract, or customer number.

Of interest to business educators is the specific location of the subject line. Table 33 below shows the placement of the subject line (with or without the words "Subject," "Re," or "Reference") in the 100-letter work sample.

TABLE 32. SUBJECT LINE HEADING PRACTICES

Practice	Percent
Use of words "Re" or "In Re"	78%
Use of word "Subject"	11
Subject line without introductory heading	11
Total	100%

N=28

TABLE 33. LOCATION OF SUBJECT OR REFERENCE LINE

Location		Number	Percent
Above salutation			
Starting at left margin	9		
Starting at center	7		
Indented 5 or 10 spaces	3		
Ending even with right margin	3		
Centered	2		
		24	88%
AMS Simplified		1	1
Below salutation			
Starting at left margin	1		
Centered	1		
Indented	1		
		3	11
Totals		28	100%

Closing lines of letters. Table 34 below presents data relating to the closing lines of letters.

TABLE 34. CLOSING LINES OF LETTERS

Practice	Percent
Complimentary close	
Standard closing	97%
Special complimentary close	2
No complimentary close (AMS Simplified)	1
Use of:	
Company name	21
Signer's typewritten name	93
Signer's title	80
Reference initials	
Both signer's and typist's	72
Typist's only	19
Neither	9
Copy notation	24

N = 100

Miscellaneous letter variables. Shown in Table 35 below are miscellaneous variables relating to business letters. The majority (57 percent) of the letters in the work sample contained 125 words or less, and the most common line length was 6 inches.

TABLE 35. MISCELLANEOUS LETTER VARIABLES

Variable	Percent
Length of letter	
125 words or less	57%
126 - 225 words	26
226 - 325 words	9
Two or more pages	8
Line length	
Standard 6-inch line	54
Other line lengths	46
Two-letter state abbreviation in address	30
Columnar material in letter	11

N = 100

Responses from the questionnaires closely paralleled the findings of the work sample analysis. Variables which could be compared are shown in Table 36 below.

TABLE 36. COMPARISON OF SELECTED LETTER VARIABLES FROM QUESTIONNAIRES WITH WORK SAMPLES

Variable	Questionnaire responses (N = 748)	Work sample analysis (N = 100)
Block letter style	43%	45%
Modified block style, block paragraphs	28	32
Modified block style, indented paragraphs	28	21
8 1/2" x 11" stationery	97	97
Letter length of 225 words or less	87	83
Mailing notation	4	3
Attention line	24	11
Company name in closing	22	21
Signer's typewritten name	93	93
Signer's and typist's initials	86	72
Columnar material in letter	12	11

Letters—Implications for business education curricula. Typewriting instruction should continue to include both block and modified block letter styles with emphasis upon the more efficient block style.

The use of mixed punctuation should be emphasized with all letter styles, but business educators should give attention to open punctuation because it is the more efficient practice.

The use of a floating dateline as an efficient practice should be encouraged. Instruction in letter placement should include both variable margins and fixed margins, with increasing emphasis upon the latter.

Students should develop competence in typing letters with attention and subject lines. Instruction in the wording and placement of subject lines should give some practice emphasis to introductory use of "Re" and "In Re" with subject lines; also, practice should be provided in flexible placement of the subject line.

Typewriting students should be given practice in typing company names, the signer's typewritten name, and the signer's title in the closing lines of letters. They should be encouraged to type reference initials on all correspondence. Some letters should be typed which include mailing notations, columnar material, and designated carbon copies. Since so many copies today are made by means of the photocopier, business educators should consider replacing the outmoded "cc" for

carbon copy with the more efficient and accurate "c" for copy, although the use of "cc" for carbon copy and "pc" for photocopy may be warranted as an indication of the nature of the copy sent to others.

Memoranda

The analysis of the memoranda sample is shown in Table 37 below.

TABLE 37. MEMORANDA

Variables	Percent
Paper size	
8½" x 11"	96%
Smaller	3
Larger	1
Memo form	
Special memo form	55
Plain paper	28
Letterhead stationery	17
Subject line wording	
Use of "Subject"	84
Use of "In Re" or "Re"	13
Neither "Subject" nor "Re"	3
Subject line placement	
Left margin	83
Center or ending even with right margin	16
Omitted	1
Inclusion of columnar material	
2 columns	9
3 or more columns	6
Use of columnar headings	4
Writer's signature or initials	
Signed or initialed near "From"	11
Signed or initialed after message	44
Signature and initials omitted	45

N=93

Memoranda were usually typed on paper which measured 8½ x 11 inches. Special memoranda form paper was used by 54 percent of the sample, plain paper by 28 percent, and letterhead stationery by 17 percent. In 84 percent of the memoranda analyzed, the word "Subject" appeared in the heading; in 13 percent, the words "In Re" or "Re" appeared. The subject line was placed at the left margin in 83 percent of the memoranda and at the center or right margin in 16 percent. The writer either signed or initialed the memoranda after the message in 44 percent of the sample. In 11 percent of the memoranda, the writer placed his or her signature or initials near the heading "From," and in 45 percent of the

sample no personal signature or initials appeared. Columnar material of two or more columns appeared in 15 percent of the memoranda analyzed.

Memoranda—Implications for business education curricula. Instruction in memoranda typing should include various forms, heading styles, and should occasionally include columnar material. Students should be informed of the numerous possibilities for signing and initialing memoranda.

Reports and Manuscripts

Table 38 below shows questionnaire data relating to the length of reports.

TABLE 38. LENGTH OF REPORTS

Length	Always or usually	Sometimes	Rarely or Never	Total
Less than 1 page	28%	39%	33%	100%
1 to 5 pages	51	38	11	100
6 or more pages	23	33	44	100

N=630

A little over half (51 percent) of the clerical workers reported that they usually typed reports which were one to five pages in length, although 28 percent said the reports they usually typed were under one page, and an additional 23 percent said they usually typed reports which were six or more pages in length.

Table 39, page 28, shows practice in terms of the use of headings, footnotes, and spacing in report typing.

In regard to the placement of headings in reports, 92 percent of the clerical workers indicated that the reports they typed usually had centered headings, 77 percent had side headings, and 85 percent included paragraph headings. Columnar material, reported 86 percent of the respondents, usually was contained in the reports they typed. Footnotes, which were used by only half of the respondents, were most often typed at the bottom of the page where they were cited.

The spacing of reports appears to have little relation to the length of the report. Nearly as many clerical workers used single spacing for short reports as for longer reports. For reports of less than one page, 48 percent used single spacing; for reports of more than one page, 56 percent used single spacing.

Reports—Implications for business education curricula. Students should be taught to type reports and manuscripts with centered, side, and paragraph headings, along with columnar material in the body of reports. Opportunities should be provided to type reports with and without footnotes. Instruction in footnoting should include placement at the bottom of the page where cited, at the end of the report, and reference citations within the body of the report with the references listed in alphabetic order at the end of the report. The efficiency of the latter placement should be emphasized.

TABLE 39. HEADINGS, FOOTNOTES, AND SPACING IN REPORTS

Practice	Percent
Headings	
Centered	92%
Side	77
Paragraph	85
Columnar material	86
Footnotes	
Typed at bottom of page where used	38
Typed at end of report	9
Typed within body of report in abbreviated form	2
Other placement	1
No footnotes typed	50
Spacing in reports of less than 1 page	
Single	48
Double	46
Other	6
Spacing in reports of more than 1 page	
Single	56
Double	38
Other	6

N=630

Tables

A total of 618 respondents (77 percent) said that they typed tables as part of their typewriting tasks. Their responses are shown in Table 40, page 29.

Main headings were nearly always included in the typing of tables by the survey respondents. Secondary headings were used by 50 percent, and columnar headings by 78 percent of the clerical workers. Nearly half (49 percent) of the sample reported that the tables they typed usually contained four or more columns. Vertical and horizontal rulings were *usually* used by less than one-third of the sample. However, an additional 38 percent reported that they *sometimes* used vertical rulings, and another 43 percent said they *sometimes* used horizontal rulings.

More clerical workers use eye judgment (34 percent) in setting up tables than either the backspace-from-center method or mathematical calculation. Success in using eye judgment for most clerical workers, in all probability, was achieved after education and experience in using one or more of the other methods for determining columnar placement of tables.

Tables—Implications for business education curricula. Students should develop competence in typing tables which contain main, secondary, and columnar headings. Students should also learn to type tables with vertical and horizontal rulings. Students should be taught to set up tables using either the backspace-from-center method or mathematical placement so that eventually they will be able to set up tables by visual judgment.

TABLE 40. TABLES

Practice	Always or usually	Sometimes	Rarely or never
Main headings	92%	6%	2%
Secondary headings	50	38	12
Columnar headings	78	16	5
2 columns	25	58	17
3 columns	26	61	13
4 or more columns	49	40	11
Horizontal rulings	31	43	26
Vertical rulings	29	38	34

N=618

Table 41 below shows the method or procedure followed in setting up tables.

TABLE 41. METHOD OF SETTING UP TABLES

Method	Percent
Eye judgment	34%
Backspace-from-center method	31
Mathematical calculation	28
Other method	7
Total	100%

N=618

Figure typing

Table 42, page 30, shows the extent of figure typing reported by clerical workers in this study.

Slightly over a fifth (22 percent) of the respondents in all job categories reported that typing figures was a minor part of their total stroking; that is, less than 5 percent of their typewritten output was figure typing. At the other extreme, 12 percent of the clerical workers reported that 25 to 35 percent of their total stroking was figures; and 14 percent said that the typing of figures represented over 35 percent of their total stroking.

When analyzed by job category, stenographers (26 percent) and typists (23 percent) reported the greatest percentage of figure typing. The least figure typing was done by secretaries and word processing specialists.

Figure typing—Implications for business education curricula. Drill should be provided so that typewriting students develop proficiency in typing figures.

TABLE 42. FIGURE TYPING AS A PERCENT OF TOTAL STROKING

Job category	Under 5%	5-15%	16-25%	25-35%	Over 35%	Total	N
Typist	12%	24%	28%	13%	23%	100%	79
Stenographer	15	33	11	15	26	100	27
Secretary	23	29	24	12	12	100	466
WP Specialist	19	32	24	13	12	100	124
Other	26	23	16	13	22	100	87
All categories	22%	29%	23%	12%	14%	100%	783

Symbol Typing

Table 43, page 31, presents typewriter symbols and the degree of use reported by the survey respondents. The most used symbols were the underline, hyphen, dollar sign, apostrophe, and the parentheses. The least used symbols were the @ sign, the ¢ sign, brackets, the exclamation mark, and fractions.

Symbol typing—Implications for business education curricula. Typing students should learn all symbols at the acquaintanceship level; however, special emphasis should be given to those symbols which are used frequently.

Equipment Usage

Shown in Table 44, page 31, are the kinds of typewriters used by the clerical workers in the survey.

The IBM Correcting Selectric was used by 43 percent of the typists, stenographers, secretaries, and word processing specialists who participated in the survey. An additional 19 percent of the respondents used the IBM Selectric typewriter, making a total of 52 percent of the sample who used element typewriters. Type-bar electric machines were used by 11 percent of the respondents, while manual typewriters were used by only 4 respondents, representing less than 1 percent of the total equipment usage.

Automated equipment included the use of CRT (cathode ray tube) units by 5 percent of the respondents, the IBM Memory typewriter by 4 percent, the IBM Mag Card by 4 percent, the IBM Office System 6 by 2 percent, and other automated equipment reported by 4 percent of the respondents.

Equipment—Implications for business education curricula. Typewriting students should be given an opportunity to learn to operate element-type typewriters with special emphasis on correcting element machines. Automated typewriting equipment should be discussed and, where possible, provided for student learning experience.

TABLE 43. SYMBOL TYPING

Symbol		Use[a]
Underline	_	F
Quotation marks	"	S
Hyphen	-	F
At sign	@	R/N
Number, lb.	#	S
Dollar sign	$	F
Percent sign	%	S
Cent sign	¢	R/N
Brackets	[ ]	R/N
Ampersand	&	S
Apostrophe	'	F
Asterisk	*	S
Parentheses	( )	F
Exclamation	!	R/N
Plus, equals	+ =	S
Fractions	½ ¼	R/N

[a]F = Frequently
S = Sometimes
R/N = Rarely or never

N=796

TABLE 44. KIND OF TYPEWRITER USED

Typewriter	No.	Percent
IBM Correcting Selectric	340	43%
IBM Selectric	148	19
Type-bar electric	86	11
CRT units[a]	39	5
IBM Memory	32	4
Mag Card	31	4
Other automated machines[b]	36	4
IBM Office System 6	18	2
IBM Executive	17	2
IBM Electronic	10	1
Manual typewriter	4	1
MT/ST	2	—
Other typewriters	14	2
Using two typewriters	18	2

[a]Vydec, Wang, Lanier, Xerox 850, Word Text, ABDick Magna SL, Digital.
[b]Royal, Qyx, Redactron, Zerox 800, ABDick Magna SL, Savin, Olivetti.

Size of Type Used

Size of type used in the busines office is shown in Table 45 below.

TABLE 45. SIZE OF TYPE USED

Type size	Percent
Elite	54%
Pica	27
Both pica and elite	12
Proportional	5
Other	2
Total	100%

N=789

Elite type, once considered the type size most acceptable for business office use, was reported by only 54 percent of the respondents as the most often used type size for their typing. Apparently the larger, easier-to-read pica type is gaining in popularity as a result of the availability of typewriter fonts facilitated by the dual-pitch element typewriters. Not only did 27 percent of the respondents use pica type exclusively, but an additional 12 percent used both pica and elite.

Type size—Implications for business education curricula. Proficiency in setting up typewriting tasks using both pica and elite type should be developed by typewriting students.

Work Performance

Table 46 below shows aspects of work performance in ranked order as reported by the respondents in this study.

TABLE 46. IMPORTANCE OF SPEED, ACCURACY, AND PROOFREADING IN WORK PERFORMANCE

Work performance	Very important	Somewhat important	Not at all important	Work Total
Speed	26%	72%	2%	100%
Accuracy	98	2	—	100
Proofreading	90	9	1	100

N=797

When asked to rank three dimensions of work performance, the respondents considered accuracy and proofreading very important. In addition, speed was ranked somewhat or very important by 98 percent of the typists, stenographers, secretaries, and word processing specialists in the sample.

Work performance — Implications for business education curricula. Teachers should continue to emphasize speed and proofreading skills in helping students produce accurate typewritten output.

Changing Job Requirements

Both procedures and equipment are altering clerical work in today's offices. To probe the dimensions of possible change in the jobs of typists, stenographers, secretaries, and word processing specialists, the clerical workers in this survey were asked if their jobs were changing. Forty-five percent of the respondents answered affirmatively, and their explanations of job changes are presented in Table 47 below.

Of those who said their jobs were changing, 121 (35 percent) said they were being given more administrative and management functions, more supervision of other employees, and increased decision making. The clerical workers reported that they were responsible for coordinating services, composing letters, conducting research, gathering data, compiling reports, and managing records.

Introduction of automated equipment was mentioned directly by 17 percent of the respondents and indirectly by many others. Many clerical workers reported an easing of the office work load through the introduction of word processing equipment and computers.

Another factor influencing job change was changing company and governmental policies. Of those who said their jobs were changing, 46 (13 percent) attributed the change to shifts in company procedures and/or governmental regulations.

TABLE 47. DIMENSIONS OF JOB CHANGE FOR CLERICAL WORKERS

Explanation	N	Percent
More administration, supervision, and decision making	121	35%
Introduction of automated equipment	59	17
Company or government policies changing job	46	13
Greater independence, less supervision	32	9
Variety of tasks constantly changing	25	7
Learning new aspects of job	24	7
Supervisor changed jobs creating job change for clerical worker	13	4
Job is more people-oriented and less machine-oriented	9	3
Miscellaneous explanations	16	5
Totals	345	100%

An additional 32 respondents (9 percent) said their jobs were changing in that they were being given greater independence and less supervision.

Seven percent of the respondents (25) explained their jobs were constantly changing and no longer involved routine tasks. Another 7 percent attributed their job change to the need to learn new aspects of their current assignments. Other clerical workers (4 percent) said their jobs had changed as a result of their supervisor's job change. Three percent said their jobs were now more people-oriented and less machine-oriented.

Job change — Implications for business education curricula. Business educators need to prepare students not only with basic skills for entry-level clerical jobs, but also with general skills which facilitate promotion into administrative levels. In addition, emphasis should be given to the fostering of attitudes receptive to change.

Preparation for Employment

In evaluating current business education curricula and developing new programs, business and office educators are also concerned with the reactions of clerical employees to their preparation for employment. The present study included the following open-ended question: "What was *not* included in your education that would have been helpful to you in your job?" Table 48, page 35, lists the responses to that question.

Of the 429 clerical workers who responded to this question, 9 percent (40 respondents) replied that they were completely satisfied with their education and could suggest nothing that would have better prepared them for employment. Another 47 percent of the clerical workers who answered other questions in the survey did not take advantage of this opportunity to describe possible deficiencies in their preparation for employment. Probably some of this group considered their education satisfactory but did not bother to state it positively.

The largest group of respondents (45) felt that better preparation in language arts could have improved their performance on the job. Businessmen have for years, of course, complained about the communication abilities of employees. Clerical employees agree that their job performance could be improved through better language arts training. Many respondents said that their increased responsibilities, particularly in letter and report composition, called for improved language arts skills.

Although the introduction of word processing equipment and increased use of dictation and transcription equipment would seem to diminish the importance of shorthand, 36 respondents replied that shorthand would have been helpful to them in their jobs. Shorthand skills apparently continue to be useful to office workers. In businesses without word processing equipment, shorthand is needed for taking of dictation of correspondence and reports; in businesses with word processing installations, shorthand is still helpful in recording telephone messages, taking notes, recording minutes of meetings, and for transcribing confidential correspondence. Shorthand also serves a function in personnel relations. Some companies continue to use it as a screening device for hiring and for promoting stenographers.

Management training is becoming increasingly important to clerical employees as they are given more responsibility and more administrative duties. Instruction in organizational skills, decision making, setting priorities, time management, and supervisory skills were mentioned by 29 respondents as areas

of preparation which would have been helpful to them in their present jobs.

Information and data processing were reported by many respondents. Twenty-nine specifically named word processing equipment and procedures as areas where they needed training; 7 respondents named computer training, and an additional 6 clerical workers suggested data processing as an area where their training for employment could have been improved.

Business machines, business mathematics, and accounting were reported by 50 clerical workers as deficient areas of preparation.

In the area of typewriting, 17 respondents said that the opportunity to use up-to-date typewriting equipment, such as electronic typewriting equipment, would have been helpful to them. Another 15 reported that their work required statistical typing skills.

TABLE 48. WHAT WAS NOT INCLUDED IN YOUR EDUCATION THAT WOULD HAVE BEEN HELPFUL TO YOU IN YOUR JOB?

Response	Number	Percent
Language arts (grammar, punctuation, spelling, composition, vocabulary, etc.)	45	10%
Satisfied with preparation for employment	40	9
Shorthand	36	8
Management training (organizational skills, personnel relations, time management, etc.)	29	6
Word processing equipment and procedures	29	6
Business machines and/or business mathematics	25	6
Accounting	25	6
Human relations (psychology, working with others)	18	4
Up-to-date typewriting methods	17	4
Statistical typing	15	4
Telephone usage	15	4
Office procedures	12	3
Legal terminology	11	3
Personal development (public speaking, proper dress, office etiquette, etc.)	10	3
Instruction in taking initiative	8	2
Assertiveness training	7	2
Computer training	7	2
Miscellaneous*	80	18
Totals	429	100%

*Examples: Data processing, business law, filing systems, machine transcription, medical terminology, public relations, office management, machine repair, editing and proofreading training.

A number of clerical workers made suggestions in the area of personal development. They wanted training in public speaking, dressing properly, using office etiquette, taking initiative, and asserting oneself. They specifically mentioned instruction in developing a professional attitude toward work, handling stress situations, and developing patience and tolerance.

The clerical workers also gave pointers to business educators: Teach students how to be versatile, resourceful, and how to switch tasks as more urgent demands arise. Teach prospective employees how to work under pressure, how to meet deadlines, and how to respond to more than one boss. Teach them how to set priorities, how to follow through on projects, and how to be self-sufficient.

The suggestions of clerical workers concerning preparation for employment combine basic skills, specialty skills, and human relations skills. Although offices are becoming more automated, workers continue to need human relations skills. As automation enters the office scene, clerical workers are asking for additional preparation in technical skills, such as knowledge of computers, data processing, and word processing procedures and equipment. In addition, as automation frees them from routine tasks, they are asking for preparation to help them cope with increasing responsibilities, including management training and human relations.

Preparation for employment — Implications for business education curricula. Curricula should include broad basic skills, technical and specialized skills, and also human relations and personal development skills. As automation frees them from routine tasks, clerical workers must be prepared with management and human relations skills necessary to cope with increasing responsibility.

V. SUMMARY STATEMENT

When adults were asked which high school subjects or experiences were most useful in later life, the three most frequently mentioned subjects were English, mathematics, and business education subjects, such as typewriting and bookkeeping (Gallup Poll, 1978). When adults were asked which subjects they did not study, but wished they had because of the special help they provide, typewriting was by far the most frequently mentioned.

It is evident, further, that the importance of typewriting will continue to grow in our society. The typewriter now plays a major or supporting role in much of the work that characterizes the business office. The office typist, however that person is titled, has a major role in information processing. The typewriter is used to correspond with others, to prepare reports, to record decisions affecting policies and procedures, and to prepare a variety of other written materials needed in day-to-day business operations. The typewriter, or a typewriter-like keyboard, is used to interact with the computer in a variety of activities characterizing the work of many office workers. Business executives are using and will increasingly use the typewriter for calling up computerized data needed in making managerial decisions.

Insofar as possible, our schools' typewriting programs which prepare students for the world of work should be designed to have relevance to the use of the typewriter in office work. The goal in our typewriting classrooms should be to acquaint students with desirable practices and procedures leading to improved office productivity. The research findings presented in this monograph may help us in our work toward this goal.

For example, the research findings relating to typewriting errors would seem to indicate that a new approach needs to be taken in the classroom toward errors and error correction. With the sophisticated typewriting equipment now available and in use, it is relatively easy to correct typewriting errors. As our concern for errors is reduced, we may then devote more attention to building additional typewriting speed. Classroom emphasis, too, should be shifted to accuracy of proofreading so that all errors in production work are detected and corrected by the typist. We should continue to emphasize those learnings leading to increased typewriting productivity.

The input source for much of the work of the office typist is handwriting. This finding suggests that we need to give students increased experience in typing from handwritten material. This increased experience, however, should come in the later stages of the program after students have developed the needed basic typewriting skill.

In schools, too, the typewriter will increasingly be used as a learning aid in improving language arts skills, especially in reading, writing, and basic grammar. In this regard, the typewriter is a relatively unexploited learning aid.

The typewriter is already an important piece of equipment in many homes. Evidence seems to indicate that in the future it may have an important role in education in the home as the typewriter is used to interact with educational television and home computers in a variety of learning activities.

For these reasons, and many others that could be cited, it is imperative that everyone learn to use the typewriter and to use it efficiently and well.

REFERENCES

Balsley, Irol W. "A Comprehensive Analysis of Current Transcription Practices in 332 Business Firms." Unpublished Ed.D. dissertation, Indiana University, 1952.

Balsley, Irol W. *Current Transcription Practices in Business Firms*. Monograph 130. Cincinnati: South-Western Publishing Co., 1977.

Encyclopedia of Associations, M. Risk, ed. (3 volumes). Detroit: Gale Research Company, 1979.

Erickson, Lawrence W. *Basic Components of Office Work — An Analysis of 300 Office Jobs*. Monograph 123. Cincinnati: South-Western Publishing Co., 1971.

Erickson, Lawrence W. "The Use of the Typewriter in Business Offices in the Greater Los Angeles Area." Unpublished research, 1974.

Erickson, Lawrence W. "The Use of the Typewriter in Corporate Headquarter Offices." Unpublished research, 1976.

Gallup, George H. *The Tenth Annual Gallup Poll of the Public's Attitudes Toward the Public Schools*. Bloomington, IN: Phi Delta Kappa, Inc., 1978.

Guffey, Mary Ellen. "A Survey and Analysis of Business Office Practices with Implications for the Business Education Curricula." Unpublished Ed.D. dissertation, University of California, Los Angeles, 1980.

Hague, J. E., ed. *American Hospital Association Guide to the Health Care Field*. Chicago: The Association, 1978.

Martindale-Hubbell Law Directory. (7 volumes). Summit, NJ: Martindale-Hubbell, Inc., 1979.

Million Dollar Directory, Volumes I and II. New York: Dun & Bradstreet, 1979.

Ober, Bobby Scot. "An Analysis of the Business Working Papers Typed by Beginning Office Workers." Unpublished doctoral dissertation, The Ohio State University, 1974.

Patterson's American Education, 1978. Mount Prospect, IL: Educational Directories, 1978.

United States Department of Commerce, Bureau of the Census. *United States Census of Population, 1970, Occupation by Industry*. Washington, DC: U.S. Government Printing Office, 1970.

United States Department of Labor, Bureau of Labor Statistics. *Occupational Outlook Handbook, 1978-79*. Washington, DC: U.S. Government Printing Office, 1979.

United States Department of Labor, Employment and Training Administration. *Dictionary of Occupational Titles*, 4th ed. Washington, DC: U.S. Government Printing Office, 1977.